

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method comprising:
transmitting data on a first virtual circuit in a network along one connection of a plurality of connections established in said first virtual circuit;
receiving a message on a second virtual circuit in said network, said message signaling a possible failure detected in said network; and
switching transmission of said data ~~transmitted on~~from said first virtual circuit to said second virtual circuit ~~within a predetermined period of time~~in response to the message unless a predetermined gap in transmission of said data along said one connection is detected.
2. (Original) The method according to claim 1, wherein said network is an Internet Protocol (IP) network.
3. (Original) The method according to claim 1, wherein said network is an Asynchronous Transfer Mode (ATM) network.
4. (Original) The method according to claim 1, wherein receiving said message further comprises monitoring said first virtual circuit and said second virtual circuit.
5. (Currently Amended) The method according to claim 1, wherein said data is ~~transmitted along one connection of a plurality of connections established in said first virtual circuit~~are voice packets of a voice call and said predetermined gap is a result of a silent period in said call.
6. (Currently Amended) The method according to claim ~~5~~1, wherein a predetermined bandwidth to support said plurality of connections is assigned to said first virtual circuit and said second virtual circuit.
7. (Currently Amended) The method according to claim ~~15~~1, wherein said ~~predetermined period of time is 500 milliseconds~~switching occurs such that said call is not dropped.

8. (Currently Amended) The method according to claim 51, wherein said switching said data further comprises transmitting said data related to said one connection on said second virtual circuit.

9. (Currently Amended) The method according to claim 51, wherein said switching said data is performed ~~for said one connection~~ on an individual connection-by-connection basis, so that others of said plurality of connections in said first virtual circuit that are not affected are not switched.

[10. (Canceled).

¹⁰
11. (Currently Amended) ~~The method according to claim 5, wherein receiving said message further comprises:~~

~~detecting a predetermined gap in transmission of said data along said one connection;~~

~~transmitting a data packet signaling said predetermined gap; and~~

~~discarding said message without switching said data~~ A method comprising:

transmitting data on a first virtual circuit in a network along one connection of a plurality of connections established in said first virtual circuit;

receiving a message on a second virtual circuit in said network, said message signaling a possible failure detected in said network; and

switching transmission of said data from said first virtual circuit to said second virtual circuit unless a predetermined gap in transmission of said data along said one connection is detected in which case a data packet signaling said predetermined gap is transmitted on the first virtual circuit.

¹¹
12. (Currently Amended) The method according to claim 51, wherein said switching said data further comprises:

canceling transmission of said data along said one connection in said first virtual circuit;

establishing a second connection in said second virtual circuit; and

transmitting said data along said second connection in said second virtual circuit.

12/ 13. (Currently Amended) ~~The method according to claim 5, wherein receiving said message further comprises:~~

~~completing transmission of said data along said one connection; and~~

~~discarding said message without switching said data~~ A method comprising:

transmitting data on a first virtual circuit in a network along one connection of a plurality of connections established in said first virtual circuit;

receiving a message on a second virtual circuit in said network, said message signaling a possible failure detected in said network; and

switching transmission of said data from said first virtual circuit to said second virtual circuit unless transmission of said data along said one connection is complete in which case the message is discarded.

13/ 14. (Currently Amended) The method according to claim 51, wherein said one connection is a Voice over Internet Protocol (VoIP) connection.

14/ 15. (Currently Amended) The method according to claim 51, wherein said one connection is a Voice over Asynchronous Transfer Mode (VoATM) connection.

15/ 16. (Currently Amended) ~~A method comprising:~~
~~receiving data on a first virtual circuit in a network;~~
~~transmitting a message on a second virtual circuit and said first virtual circuit in said network, if said data is not received for a predetermined period of time; and~~
~~receiving said data on said second virtual circuit in said network~~ A method suitable for re-routing the flow of data packets in the event of a network failure, comprising:

providing first and second virtual circuits that connect a pair of end nodes in a network, wherein a connection between the end nodes can be established through either virtual circuit; and then

receiving data packets on the first virtual circuit at one of the end nodes; and then

transmitting on the first and second virtual circuits by said one of the end nodes messages to the other end node, in response to not having received a data packet for a predetermined period of time; and then

receiving on the second virtual circuit at said one of the end nodes data packets of said connection.

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17. (Original) The method according to claim 16, wherein said network is an Internet Protocol (IP) network.

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18. (Original) The method according to claim 16, wherein said network is an Asynchronous Transfer Mode (ATM) network.

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19. (Currently Amended) The method according to claim 16, further comprising: monitoring said first virtual circuit and said second virtual circuit at said one of the end nodes for a second predetermined period of time after transmitting said messages; and

transmitting said ~~message~~ on the first and second virtual circuits by said one of the end nodes messages to the other end node, if said ~~a data in packet~~ of said connection is not received during said second predetermined period of time.

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20. (Currently Amended) The method according to claim 16, wherein said predetermined period of time is 50 milliseconds selected so that said one of the end nodes does not interpret a short interruption in data packet flow as a network failure.

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21. (Currently Amended) The method according to claim 19, wherein said second predetermined period of time is 500-250 milliseconds.

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22. (Original) The method according to claim 16, further comprising monitoring said first virtual circuit and said second virtual circuit for said predetermined period of time.

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23. (Original) The method according to claim 16, wherein a plurality of connections is established on said first virtual circuit.

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24. (Currently Amended) The method according to claim 16, wherein said data is packets are received along one connection of a said connection being one of said plurality of connections established in said first virtual circuit.

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25. (Currently Amended) The method according to claim ~~24~~²³, wherein ~~transmitting said message further comprises~~further comprising monitoring said connection for said predetermined period of time.

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26. (Currently Amended) The method according to claim ~~24~~²³, wherein ~~transmitting said message further comprises~~further comprising detecting a failure on said ~~one~~ connection in said first virtual circuit.

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27. (Currently Amended) The method according to claim ~~26~~²⁵, wherein said detecting is performed subsequent to receiving a ~~first data packet of said data~~an initial one of the data packets along said ~~one~~ connection.

AB1 Cont.
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28. (Currently Amended) The method according to claim ~~22~~²¹, wherein said monitoring is performed subsequent to receiving a ~~first data packet of said data~~an initial one of the data packets on said first virtual circuit.

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29. (Original) The method according to claim ~~23~~²², wherein a predetermined bandwidth to support said plurality of connections is assigned to said first virtual circuit and said second virtual circuit.

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30. (Currently Amended) The method according to claim ~~24~~²³, wherein said ~~one~~ connection is a Voice over Internet Protocol (VoIP) connection.

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31. (Currently Amended) The method according to claim ~~24~~²³, wherein said ~~one~~ connection is a Voice over Asynchronous Transfer Mode (VoATM) connection.

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32. (Currently Amended) An apparatus comprising:
means for transmitting data for a voice call on a first virtual circuit in a network;
means for receiving a message on a second virtual circuit in said network, said message signaling a possible failure detected in said network; and
means for switching said ~~transmission of data transmitted on~~for said voice call ~~from~~ said first virtual circuit to said second virtual circuit ~~within a predetermined period of time~~unless a gap in transmission of said data is determined to be due to a silent period in said voice call.

³²
33. (Original) The apparatus according to claim ³¹~~32~~, wherein said means for receiving further comprises means for monitoring said first virtual circuit and said second virtual circuit.

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34. (Currently Amended) An apparatus comprising:
means for receiving data for a voice call on a first virtual circuit in a network;
means for transmitting a message on a second virtual circuit and said first virtual circuit in said network, if said data is not received for a predetermined period of time selected so that transmission of data can be switched from the first virtual circuit to the second virtual circuit without the voice call being dropped; and
means for receiving said data on said second virtual circuit in said network.

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35. (Currently Amended) The apparatus according to claim ³³~~34~~, further comprising:
means for monitoring said first virtual circuit and said second virtual circuit for a second predetermined period of time; and
means for transmitting said message if said data ~~in~~is not received during said second predetermined period of time.

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36. (Currently Amended) A computer readable medium having instructions which, when executed by a processing system, cause the system to:
transmit data for a voice call on a first virtual circuit in a network;
receive a message on a second virtual circuit in said network, said message signaling a possible failure detected in said network; and
switch ~~said data transmitted on~~ transmission of said data from said first virtual circuit to said second virtual circuit ~~within a predetermined period of time unless~~ transmission of data for said voice call is complete in which case the message is discarded.

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37. (Original) The medium of claim ³⁵~~36~~, wherein the executed instructions further cause the system to:
receive said message by monitoring said first virtual circuit and said second virtual circuit.

37 38. (Currently Amended) A computer readable medium having instructions which, when executed by a processing system, cause the system to:

receive data packets of a connection on a first virtual circuit in a network; and then

transmit a message on a second virtual circuit and said first virtual circuit in said network, ~~if said data is not~~ in response to a data packet of the connection not having been received for a predetermined period of time; and then

receive ~~said data~~ packets of the connection on said second virtual circuit in said network.

37 38. (Currently Amended) The medium of claim 37, wherein the executed instructions further cause the system to:

monitor said first virtual circuit and said second virtual circuit for a second predetermined period of time after transmitting said message; and

transmit said message ~~if said data is again~~ if a data packet of the connection is not received during said second predetermined period of time.